

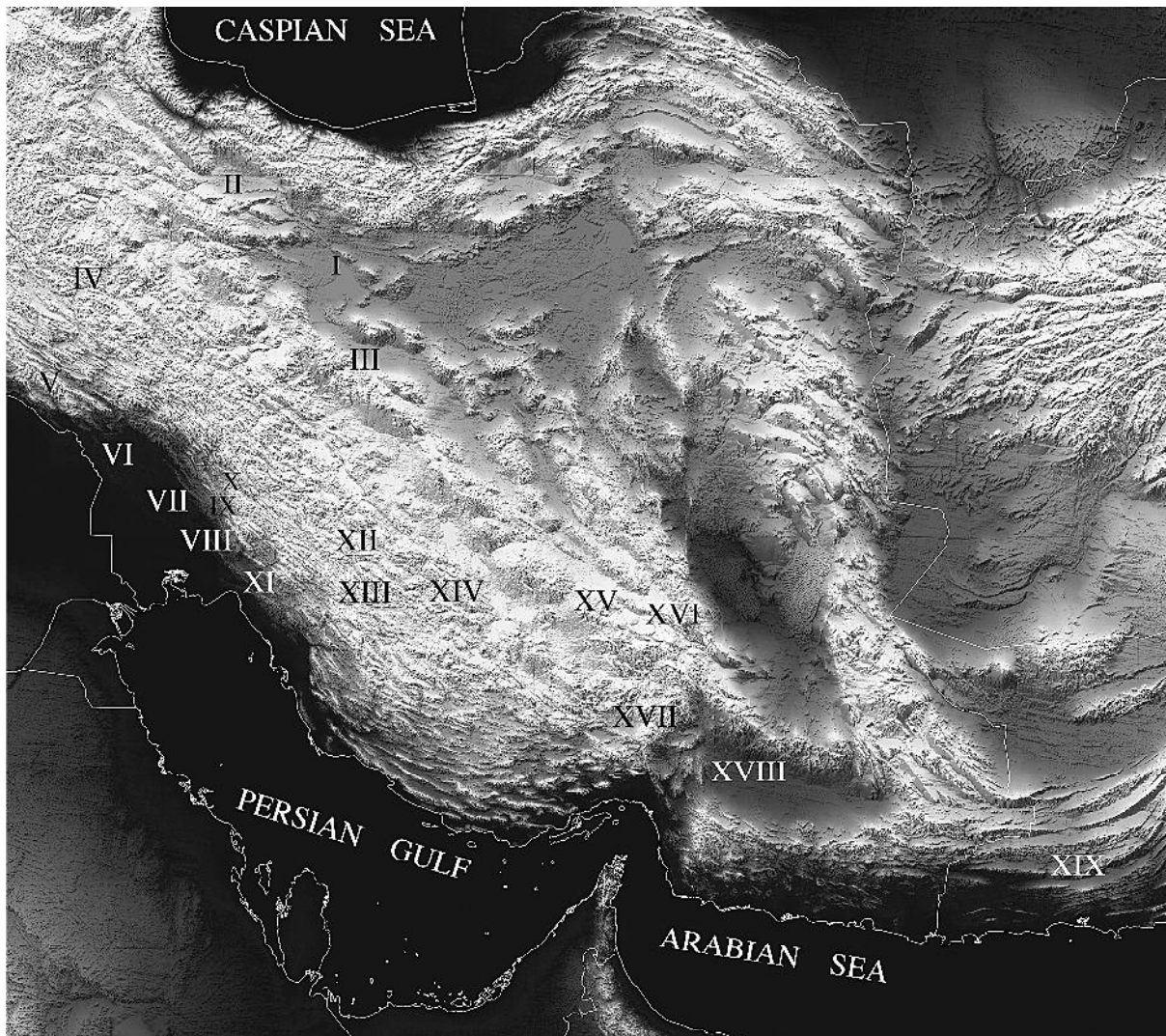
# BEVEL-RIM BOWLS AND BAKERIES: EVIDENCE AND EXPLANATIONS FROM IRAN AND THE INDO-IRANIAN BORDERLANDS

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The handmade (Karlsbeck 1980; Chazan and Lehner 1990: 25) or moldmade (Balfet 1980: 78, Miller 1981: 128) vessel known as the “bevel-rim” or “bevelled-rim” bowl (hereafter BRB) is characterized by a coarse, chaff-tempered, highly porous fabric, fired at a low temperature. With its distinctive, often sloppily indented (bevelled) rim and rough exterior (fig. 1), the BRB is easily identified and, once seen, rarely mistaken for anything else. Although considered a characteristic Mesopotamian ceramic *leitfossil* of the mid- to late-fourth millennium BC, the first BRBs ever published were actually discovered in Iran, at Susa, during the seasons of 1897/98 and 1898/99 (de Morgan 1900: figs. 91, 118, 121). In the winter of 1902/3 at least one complete BRB, later displayed in the Louvre, was recovered by Gautier and Lampre at Tepe Musiyan (Burton Brown 1946: 36). The first examples published from a Mesopotamian site were those found at Tell Abu Shahrein (ancient Eridu) in 1918 (Campbell Thompson 1920: figs. 3.4 and 4.10). In 1925/26 six BRBs were found at Jamdat Nasr (Mackay 1931: pl. 67.22–23), prompting Ernest Mackay to observe, “The combination of beveled rim with a rough appearance should be of use in dating other sites where they might be found” (Mackay 1931: 250). Henri Frankfort obviously concurred, for a year later he cited BRBs—a “rough bowl with thick walls, beveled at the rim”—among the diagnostic shapes of the Uruk period in his classic study of the “Sumerian problem” (Frankfort 1932: 17, n. 3).

In 1928 more BRBs from Susa were published (Allotte de la Füye, Cumont, and de Mecquenem 1928: 102, fig. 1.4) and during the next few years BRBs were recorded in Assyria for the first time during the British Museum’s excavations (seasons of 1929/30–1931/32) at Nineveh (Campbell Thompson and Hutchinson 1931: 104; Campbell Thompson and Hamilton 1932: 88; Campbell Thompson and Malloy 1933: 168). The fact that many BRBs were found upside down at Nineveh in the vicinity of the later Ishtar temple reminded their excavators of much later, similarly upturned Aramaic incantation bowls at Nippur. On analogy with these, Campbell Thompson and his assistants suggested that BRBs had functioned as votive bowls.

BRBs were recorded on the Iranian Plateau for the first time in 1933 during the excavation of Tepe Sialk (Ghirshman 1938: pl. 26.7b; Amiet 1985: 196 and fig. 1.S20) and by 1942 their presence or absence was being cited by D. E. McCown as a significant chronological marker in his interpretation of Susa’s stratigraphy (McCown 1942: 43, 44). A year later R. de Mecquenem suggested that BRBs functioned as the markers of infant burials at Susa (de Mecquenem 1943: 13). In 1946 T. Burton-Brown compared BRBs to Predynastic and Old Kingdom Egyptian bread pots (Burton-Brown 1946: 36–37), in which he



Map of sub-regions, identified by Roman numerals, in which BRBs have been recorded (see Table 1 for complete listing of sites by name within each sub-region).

was followed a year later by E. Baumgartel (1947: 93). Neither, however, explicitly suggested that BRBs had been used for baking bread (this is, however, implied by Schmidt 1982: 317), and even the formal parallel was dismissed by H. Kantor (Kantor 1954: 6; Hennessy 1967: 39). In 1952, P. Delougaz published a thorough investigation into the problem of their function. Rejecting the Nineveh team's proposal that they had been used as votive offerings, Delougaz suggested instead that their "porosity, shape, and size would have been well suited" to "processes of food preparation such . . . as the separation of whey from curds" (Delougaz 1952: 128).

Discussion of function languished somewhat over the next decade as the emphasis shifted again to the utility of BRBs as chronological markers. Following on from McCown's observations about the presence of BRBs at Susa, R. H. Dyson Jr., included bevel-rim bowls among those ceramic indicators that denoted the spread of what he termed the "Uruk-Jamdat Nasr-related horizon" in Iran in the second edition of *Chronologies in Old World Archaeology* published in 1965 (Dyson 1965: 219). By that time



Fig. 1. BRB from Ur, donated to the Nicholson Museum, University of Sydney, in 1935 (NM 35.81), height 8.5–9.8 cm, base diameter 7.5 cm, rim diameter 16–16.8 cm.

this point needed no further emphasis, however, and again the question of function arose, this time from an entirely different perspective.

Two very different hypotheses appeared in rapid succession. In 1967, B. Buchanan suggested that BRBs at Telloh had been used to hold aromatics burnt near the site of burials in order to sweeten the air and quell the stench of death (Buchanan 1967: 539). In 1970, however, a far more robust explanation was proposed by H. J. Nissen. In the course of his excavations in K/L XII at Uruk-Warka during the winter seasons of 1965/66 and 1966/67, Nissen encountered some 1520 BRB fragments. The sheer numbers involved set him to thinking about the function of this mass-produced type, and in so doing to reject earlier hypotheses linking them to both votive offerings and food preparation. Instead, the uniformity of BRBs suggested to Nissen that these vessels were used to distribute those rations in *naturalia* on which, according to cuneiform sources, a large proportion of the southern Mesopotamian population was dependent during the late-fourth millennium BC (Nissen 1970: 137). Integral to Nissen's hypothesis, but unstated in his 1970 publication, was the identification of the archaic pictogram GAR = NINDA with the BRB (Green, Nissen, Damerow, and Englund 1997: 153–54; Englund 1998: 180; Cancik-Kirschbaum and Chambon 2006: 201). In fact, already in 1925, A. Deimel had recognized “the pictographic referent of the sign GAR (Sumerian ‘ninda’ and Akkadian correspondence *akalu*) as a dining bowl” (Englund 1998: 180; Deimel 1925: 102, sign 597).

Several years after Nissen's original discussion of the mass-produced types at Uruk was published, G. A. Johnson tested his hypothesis by examining two features of it which he called “distributional efficiency” and “standardization of container volume according to ration size” (Johnson 1973: 132). Johnson argued that evidence of BRB manufacture at Susa, Choga Mish, and Abu Fanduweh, all of which were major population centers during the fourth millennium BC, suggested the existence of a

system of efficient BRB production close to hypothesized points of ration distribution. Secondly, based on his estimates of BRB volume for 189 sherds from five sites (KS-36, KS-39, KS-59, KS-108 and Susa), Johnson identified three size categories with mean volumes of .922, .647 and .465 liters. These, he believed, corresponded reasonably well to standard ration units of 1, .72 and .5 liters (Johnson 1973: 135).

Subsequent metric analysis by T. W. Beale cast doubt on the validity of this tri-modal ration-bowl hypothesis (Beale 1978), largely because of what he considered an intolerable degree of size/volume variability in the sample, a point illustrated by the BRBs from Tepe Farukhabad as well (Miller 1981). Johnson, however, continued to argue that Nissen's hypothesis best fit the available evidence (1987: 112). Interestingly, variability observed in BRB volumes might still be accommodated by the proto-cuneiform evidence since the sign GAR is associated with no fewer than 33 units of grain ranging in size from 25 liters ( $N_1$ ) to a small quantity ( $N_{30c}$ ), the exact size of which is unknown (Englund 2001: 8–9). On its own, however, GAR “does have a specific metrological equivalent in archaic accounts . . . with some variations, it corresponds to the numerical sign  $N_{30a}$  equal to 1/30 of the sign  $N_1$  in the capacity system” (Englund 1998: 180), or an amount (25/30) of ca. .83333 liters. Nevertheless, it seems highly unlikely that BRB volume variants, which so often seem to reflect the vagaries of ceramic production, correspond to gradations in the Archaic system of grain metrology. In fact, this entire line of reasoning may be invalid if, as Englund assumes, some sort of scoop or ladle of fixed size was used to dish out the rations, putting the cereal into the BRB (J. Dahl, pers. comm.). In this case, the variability of BRB volumes would be irrelevant.<sup>1</sup>

The 1980s witnessed a change of direction in the interpretation of BRBs. In 1982, the prehistorian K. Schmidt proposed that BRBs were bread molds (Schmidt 1982) while in 1987 J.-D. Forrest proposed that they had held food consumed at banquets by the Late Uruk aristocracy and had been discarded after use (Forrest 1987). A year later, the Assyriologist and Old Testament scholar A. R. Millard, apparently unaware of Schmidt's suggestion, returned to the bread-mold explanation (Millard 1988), a suggestion that quickly received the support of Egyptologists struck by the similarity of BRBs and ancient Egyptian vessels used to make pot-baked bread (Chazan and Lehner 1990). Shortly thereafter, however, G. Buccellati steered the discussion in yet another direction when he suggested that BRBs were used as containers for the dessication of salt cakes and their subsequent transport and distribution (Buccellati 1990: 25).

Today it would seem that, despite Beale's critique of the metric regularity of the BRB and the alternative hypotheses put forward over the years, Nissen's ration-bowl theory is favored by most archaeologists and a large number of Assyriologists. Undoubtedly this is due to the fact that it sits well with our current understanding of Late Uruk social and economic evolution (not just the notion of laborers compensated with rations) particularly since, as a ceramic fossil index of the Late Uruk period, BRBs have figured in the voluminous literature generated since the late 1960s on what is generally known as the “Uruk phenomenon” or “expansion” (Algaze 2005; Stein 1999; Collins 2000; Rothman 2001; Postgate 2002; Butterlin 2003; for a critique see Potts 2004). The startling discovery in the 1960s of what appeared to be Uruk-era colonies at Habuba Kabira, Jabal Aruda, and Tell Kannas on the Middle Euphrates, with assemblages of typical Mesopotamian ceramics including BRBs, was but a prelude to a spate of work at Uruk-related sites in southern Anatolia like Arslantepe, Kurban Höyük, Lidar Höyük, Hassek Höyük, and Haçinebi. As scholars began to speak of Uruk colonies (e.g., Habuba Kabira); Uruk enclaves within indigenous, native settlements (e.g., Godin Tepe); and a corona of Uruk influence even further afield, the BRB came to be recognized as one of those Uruk ceramic types that seemed to penetrate furthest into the Mesopotamian periphery. While this discussion has not ignored finds from sites in Iran (e.g.,

1. For a good overview of the different methods that may be used to estimate vessel volume from archaeological drawings and shards, see Senior and Birnie (1995).

Algaze 2005: 53–56), it seems nonetheless true that the occurrences of BRBs in Iran and even further east, in Pakistan, have not received the attention they deserve. It is to this material that we now turn.

### BRBs in Iran and Pakistan

So much survey and excavation has taken place in Iran since the revolution of 1979, and so few reports of this work have been accessible in the West, that it is difficult to be certain just where BRBs have been recovered. In 1980 A. Le Brun published a list of sixteen sites in Iran (not counting all of the Khuzestan survey sites) at which BRBs had been found and published (Le Brun 1980: 67–68) and by 1999 that number had grown to forty-five (Abdi 1999: 83–84). A search through the relevant literature and consultations with Iranian colleagues (especially A. Moghaddam and K. Abdi) now suggest that BRBs have been picked up on or excavated at over one hundred sites in some nineteen different subregions of Iran and Pakistan. These are listed in Table 1, beginning near Tehran in the north and proceeding west into the Zagros, south to Khuzestan and eastward into Fars, Kerman, and Pakistani Makran. Each of the regions is numbered sequentially from I to XIX (the subareas of the Central Western Zagros and Bakhtiyari mountains are not given individual numbers but are listed separately). In addition, site names are preceded by a number from 1 to 107. This should be taken as a minimum figure, since the exact number of sites with BRBs in some regions (e.g., Bard Sir) is unclear.

The fallibility of the available distribution data is clearly illustrated by the fact that, during an informal survey carried out in 2002, K. Roustaei, C. Petrie, L. R. Weeks, and the author picked up BRBs on several sites, including Arjan (Behbahan; figs. 2–3), Qaleh Gelli (Lordegan; figs. 4–5), Tol-e Spid, and Tol-e Nurabad (Mamasani), where they had not been previously recorded. Clearly, therefore, the likelihood is great that BRBs are present on many more sites than those recorded here. Equally, there are sites such as Geoy Tepe in Azerbaijan (Burton-Brown 1951: fig. 22.237) and Tepe Farhadgerd in Khorasan (Gropp 1995: 78, Abb. 10 [F1] and Taf. 3a) where the identification of BRBs, alleged by the excavator, can be clearly refuted by the published photographs and drawings.

### Explanations

While their presence at Susa, Godin Tepe, Sialk, Tal-e Malyan, and Tepe Yahya is often noted in the literature, BRBs are clearly much more widespread to the east of Mesopotamia than is commonly assumed. Their discovery in the north not far from Tehran, and in the south at Miri Qalat in Pakistan, signals a distribution pattern radically different from what was envisaged even just a few years ago. On the other hand, outside of Susiana, and perhaps the Marv Dasht plain (Tal-e Malyan, Tal-e Kureh), BRBs are neither particularly numerous when present nor evenly distributed across the landscape. Discontinuities in their distribution may be misleading, however. While they are absent in the Pusht-i Kuh (Haerinck 1987: 56), this region is almost completely surrounded by regions with BRBs (Deh Luran and Susiana to the south, central Luristan to the north), raising the possibility that their absence may be an artifact of exploration. Similarly, there is every possibility that BRBs will one day be found on sites situated between Bard Sir (Tal-i Iblis), the Soghun Valley (Tepe Yahya), Jiroft (Mathoutabad), and Pakistani Makran (Miri Qalat), areas that today form discontinuous links in a chain of evidence stretching ever eastward.

As noted above, between the 1920s and the 1960s numerous scholars emphasized the presence (or absence) of BRBs on sites in Iran as a significant chronological marker and this point continues to be made whenever BRBs are discovered where they were previously unknown (e.g., in our recent excavations at Tol-e Nurabad and Tol-e Spid, in the Mamasani district). Since the late 1960s, however, the cultural implications of BRBs have been given at least as much emphasis as their chronological significance. In assessing the situation at Tal-i Iblis and Tepe Sialk in 1967, J. R. Caldwell expressed a



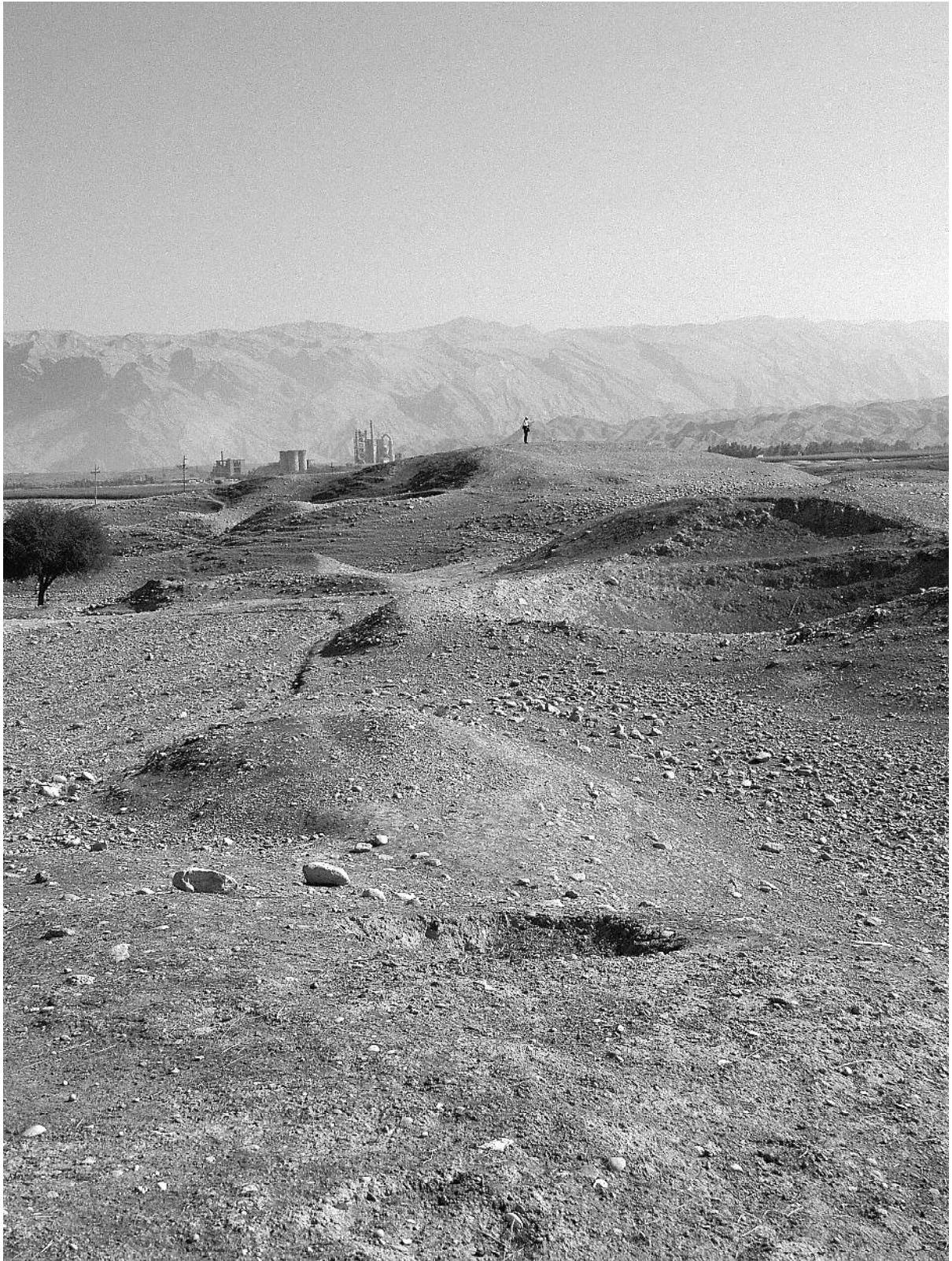


Fig. 2. View of the surface of Arjan, November, 2002.

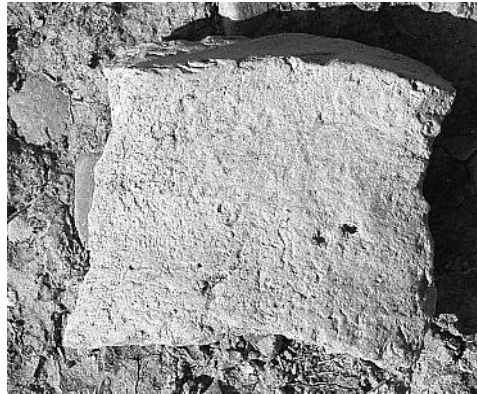


Fig. 3. BRB fragment from the surface of Arjan.

very general view that the presence of BRBs, among other ceramic types, signified a link to Mesopotamia when he wrote:

The importance of Iblis VI is in its specific connections with Sialk IV and to late Uruk and Jemdet Nasr in Mesopotamia. Ghirshman explained Sialk IV as resulting from an Elamite expansion. Our discovery of Iblis VI now suggests that his explanation may have been too simple, for we can doubt if there was a simultaneous Elamite invasion into Kerman. For the moment, we prefer to see both Sialk IV and Iblis VI as participating in a grand interaction with Mesopotamia, a parallel to the old Ubaidian *oikumenê* of Braidwood and Howe, but even more far flung, reaching Egypt, perhaps the Balkans, and two extreme points, Sialk and Iblis on the western Plateau. The western Plateau, while maintaining in part its distinctive cultural areas, was perhaps now becoming a vast hinterland of the Mesopotamian cities of late Uruk and Jemdet Nasr times, perhaps about 2800 BC. (Caldwell 1967: 38)

### A Vast Hinterland of Mesopotamia?

While Susa and Susiana might be viewed in this light—at least during the Late Uruk period—there are probably few scholars working today who would describe the whole of western Iran in such words, let alone the entire area extending north to Tehran and east to Pakistani Makran. Nevertheless, whether or not Iran was an Uruk hinterland, it is certainly true that the presence of BRBs has been invoked on numerous occasions as a reflection of ties between the Iranian Plateau and Uruk Mesopotamia. Thus, in their preliminary report on Tal-i Iblis, Caldwell and Malek Shahmirzadi suggested that the presence of BRBs there might “have something to do with the export of copper from Iblis” (Caldwell and Shahmirzadi 1966: 16), a view still echoed four decades later by G. Algaze who suggested that the copper resources of the Iblis region “were accessible to Uruk societies in Khuzestan” (Algaze 2005: 70). Similarly, Algaze has called Sialk IV<sub>1</sub> an “Uruk outpost,” suggesting that the presence of BRBs “and occasional conical cups of Uruk type” at Tepe Ghabristan were byproducts of copper exploitation (it is unclear whether he meant actual mining or simply trading/acquisition) “by Uruk societies by way of the Khorasan Road” (Algaze 1989: 584; 2005: 70). He linked “a handful of beveled-rim bowl sherds” at Tepe Yahya with exploitation of copper sources in Kerman “by Uruk societies in Khuzestan via routes across the south-central Zagros and the Kur River basin” (Algaze 1989: 585; 2005: 71). Quite clearly, for Algaze, BRBs are a concrete manifestation of Uruk agents from Mesopotamia and/or Khuzestan on the Iranian Plateau.

A more strictly Mesopotamian interpretation that seems to exclude a possible link with Khuzestan has been espoused by R. Matthews and H. N. Fazeli who recently suggested, a propos the BRBs from Tepe Ghabristan, that,



Fig. 4. View of Qaleh Gelli, November 2002.



Fig. 5. BRB fragments from the surface of Qaleh Gelli.

The possible means by which these vessels reached, or were made at, Ghabristan are numerous, but they undeniably connect the site, however tenuously, with the world of Late Uruk Mesopotamia. Interest of the lowlanders in access to nearby copper sources, or rather to means of exchange with long-established communities who controlled copper extraction, smelting and casting, may well be materialised in some way in the form of the recovered bevelled-rim bowls.” (Matthews and Fazeli 2004: 65; Fazeli 2004: 197)

Such a view, however, contrasts with that of the excavator, Y. Majidzadeh, who believed that, “The community of culture between Ghabristan and Godin indicates clearly that the beveled-rim bowls must have come by way of the Kangavar Valley” (1976: 199). Elsewhere Majidzadeh suggested that the inhabitants of Ghabristan and Godin “had at the time an identical culture” (1976: 172), which, in light of Weiss and Young’s 1975 article on Godin V, he considered “a Susian trading outpost” (1976: 170). As the title of their original article clearly indicated, Weiss and Young initially viewed the Godin V complex as a settlement of people from Susa, yet a decade later Young and L. D. Levine were no longer speaking of the “merchants of Susa,” but of Mesopotamian colonies. As they wrote, “beveled rim bowls have been found on survey in sufficient quantities on at least three sites (Md. 30, 101, and 167) as to suggest the presence there of three lowland Mesopotamian ‘colonies’ similar to that known from Godin V” (Levine and Young 1986: 40). A few years later, Zagarell was more restrained, suggesting that Godin V and Sharak, near Shahr-e Kord, which he termed “Uruk communities of the western Zagros,” might have housed “small groups of ‘merchants,’” rather than full-blown colonies. Such an explanation, Zagarell continued,



was in his opinion “less likely for Tepe Yahya . . . and highly improbable for the other Zagros sites” (Zagarell 1986: 419). Algaze, while identifying the Godin V (and Sialk) Uruk material as evidence of an “Uruk outpost in the periphery,” remained undecided about whether its inhabitants hailed from Mesopotamia or Khuzestan (Algaze 2005: 53).

Moving beyond the broad characterization of sites with BRBs as “Uruk communities” or “outposts,” Zagarell made an explicit link between BRBs and the Mesopotamian system of standardized rations discussed above. He wrote,

Since, as I have suggested, these vessels are generally thought to be related to the ration system, their presence indicates the utilization of rationed labor in these newly exploited regions . . . It is not impossible that, in certain areas, hegemonic controls brought them [the small communities of merchants] tribute in goods or labor service. Indeed, even for the Zagros rim (Godin, Sharak), where smaller sites might support communities of specialized households—for example, merchants—it is improbable that we are dealing with a group of independent merchants. If one accepts the function of the bevelled-rim bowl expounded here, it is difficult to understand why large numbers of such bowls are found at such sites if these communities were simply merchant colonies; they can have had no important economic function in a merchant context. It is possible, however, that the bowls played a symbolic role, reflecting sacred or administrative dominance. (Zagarell 1986: 419)

BRB's, he suggested, were symbols of “the new Mesopotamian productive mode” (Zagarell 1986: 419) and further: “The lowland complex [of wares, etc.] seems to be restricted to a handful of sites. This is particularly true of beveled rim bowls, an important element of that complex, possessing what seems to have been a specialized, urban-based function (apparently tied to lowland public/communal redistribution and production systems . . .)” (Zagarell 1989: 294).

Fifteen years later, M. Rothman went even further, extending the implications of BRBs from ration redistribution to labor recruitment. He wrote,

Their distribution relative to other pottery types may be a way to monitor the loci of state activity. . . . Because beveled rim bowls are one of the first pottery types found both north and south at the beginning of the Uruk expansion . . . they could indicate a regionwide pattern of labor recruitment. Still, more work needs to be done both on the functions of these and other pottery types and on the whole issue of labor and its relation to social organization, ethnicity, status identification, and particularly centralized control networks. (Rothman 2004: 101)

The views expressed above can be summarized as follows. One school of thought (Weiss, Young, Levine, Algaze, Matthews, Fazeli) has identified BRBs as markers of Uruk cultural identity, associating them with merchants or other agents engaged in the procurement of copper and perhaps other commodities. Another school of thought (Zagarell, Rothman) has interpreted the presence of BRBs as a reflection of a peculiar system of labor compensation via standardized rations, a system that is basically Mesopotamian in its origins and best documented, at this early date, at Uruk and other sites where archaic proto-cuneiform texts have been found. Nicholas, proposed a variant of this latter thesis; in discussing the BRBs found at Tal-e Malyan she wrote,

It does seem unusual, though, that so many ration bowls would have been broken and discarded at the administrative center which would normally be presumed to be the agency *disbursing* the rations. . . . The juxtaposition of large amounts of bevelled-rim bowls with the presence of predominantly secular administrators raises the possibility that those vessels were being *brought* to the administrators' building, but as tax-containing bowls rather than votive bowls.” (Nicholas 1990: 128; 1987: 71)

Although Nicholas would turn the ration hypothesis on its head and replace it with a tax payment in *naturalia* for rations received, her explanation still situates the BRB in a very specific economic context and assigns it an economic function, albeit in the delivery of taxes rather than the disbursement of rations.

### Evaluation

The entire discussion of BRBs—either as cultural markers of Uruk merchants/agents, or as the residue of an Uruk-style ration economy—is reminiscent of discussions of Hellenistic ceramics in the Near East and Central Asia about twenty-five years ago when, confronted with the geographically broad diffusion of Hellenistic diagnostics, some classical archaeologists (e.g., Hannestad 1983: 84, 117–20) ventured to suggest the presence of Greek colonists throughout the entire region from the Mediterranean to the Hindu Kush based on the frequency of Hellenistic ceramics. If the fallacy of the view that “behind every fishplate lurks a Greek” is apparent, the idea that BRBs = Sumerian or Susian traders is no less worrying. As we have seen, BRBs are now distributed from the Tehran plain in the north to Pakistani Makran in the southeast. Is it really plausible to think that, at more than one hundred sites documented here (Table 1), Uruk merchants/agents were present or an Uruk-style ration or labor economy was in place? Outside of Susiana, we are not, after all, dealing with thousands of examples on any given site. Indeed, although surveys and limited excavations produce imperfect data, we are often confronted with only a few BRB sherds. Can these modest numbers support a ration system hypothesis? Do they really reflect a massive system of labor recruitment across the Iranian Plateau? Does the small quantity of BRBs reflect the presence of either settled Uruk merchants or itinerant commercial agents looking to procure copper?

In my opinion the answer to each of these propositions must be “no.” How, then, do we deal with the presence of the BRB from Miri Qalat to Tepe Maral? One simple but essential question to ask of the BRBs found in Iran is this: Were they made locally, that is, where they have been found on sites to the east of Mesopotamia, or were they imported? Here it must be admitted that very few have been analyzed. Examples from Tal-e Malyan (Blackman 1989: 8, Table 7 [6 examples each from the TUV and ABC areas]) were made of clay that is compositionally consistent with local clays and locally made, chaff-tempered ceramics. Blackman noted, “Alden postulates that bevel rim bowls may have been produced, as needed, by local households and that an as yet unidentified site that produced necked goblets probably exists. This production site may well be Tal-e Malyan” (Blackman 1981: 17). This conclusion is still somewhat equivocal, however. Unpublished analyses by Blackman of BRBs and a blank tablet from the IVC building at Tepe Yahya suggest that both were locally produced (C. C. Lamberg-Karlovsky, pers. comm.). In addition, analyses recently undertaken by C. A. Petrie on sherds from Tol-e Spid and Tol-e Nurabad showed that the BRBs at both sites were compositionally similar to each other, and to earlier Neolithic material as well, suggesting a nearby center of production (Petrie, pers. comm.).

More direct evidence of BRB manufacture at Iranian sites is provided by the discovery of BRB wasters found in the vicinity of pottery kilns at Choga Mish (Delougaz and Kantor 1996: 49) and fired BRBs within a kiln at Tall-e Abu Chizan (fig. 6), east of the Gargar in eastern Khuzestan (Moghaddam 2007). Intuitively, the fragility of BRBs might suggest that they were used fairly close to their place of production, for transport of such vessels over great distances could have resulted in a high rate of breakage. I will therefore assume, as a working hypothesis, that the BRBs found in Iran and Pakistan were locally produced rather than imported.

The nature of BRB manufacture is, however, a separate issue. Do they represent “domestic” production, in the sense of pottery produced in individual households by non-professional potters, or were they the products of specialized craftsmen? As Balfet noted, notwithstanding variations in diameter and height, the level of standardization of BRB form and paste is more consistent with production by professionals who are, she argued, less concerned with quality than with quantity (Balfet 1980: 79, n. 13).

Given the fact that BRBs were found at Susa before they were recognized anywhere in Mesopotamia, should we in fact consider the possibility that they originated somewhere to the east of Mesopotamia? Logically, the diminishing frequency of BRBs on sites as one moves eastwards from Mesopotamia would suggest the Tigris–Euphrates Valley as their point of origin. Nevertheless, the literature on many

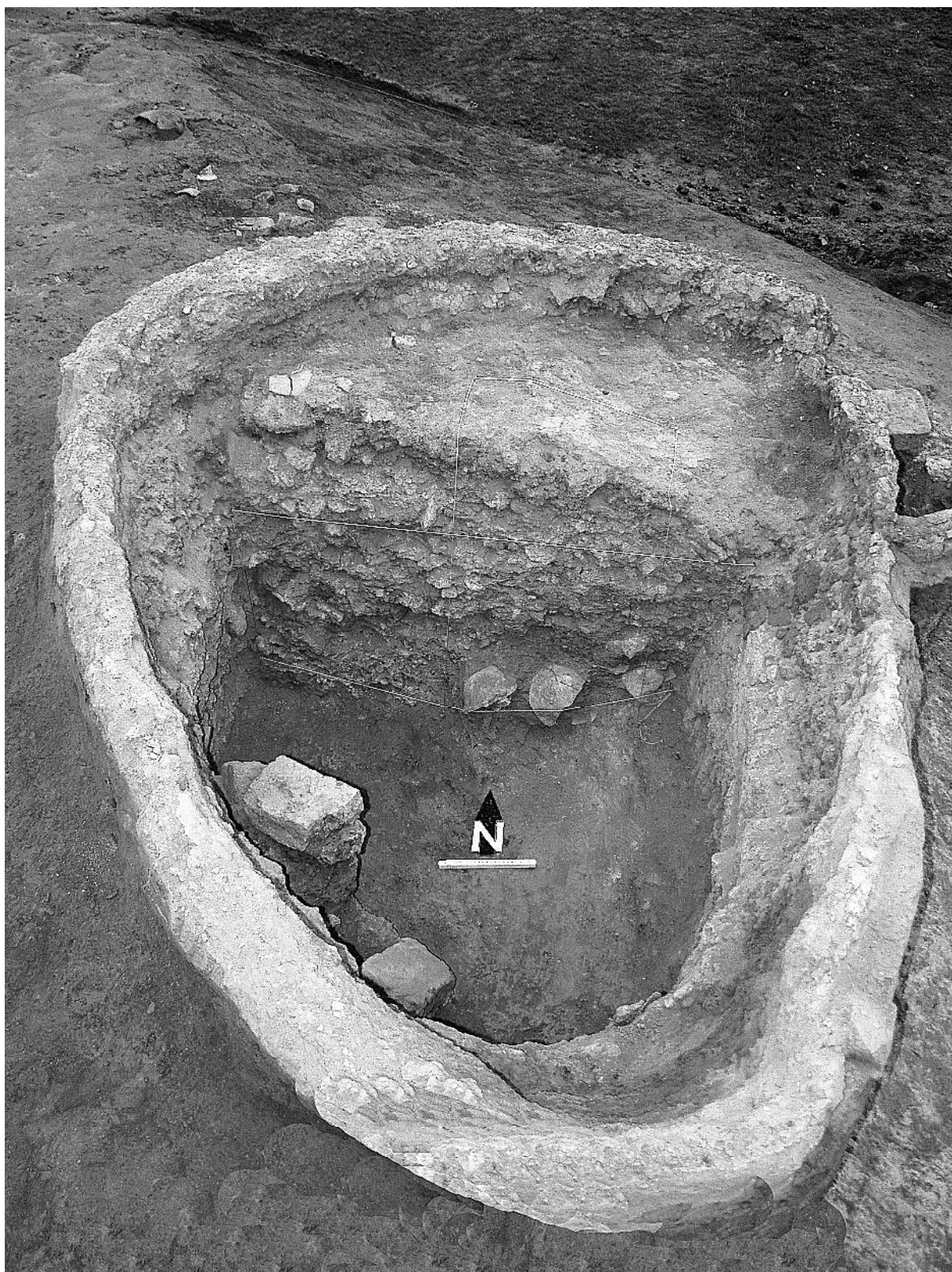


Fig. 6. Kiln with BRBs inside at the Middle Susiana site of Tall-e Abu Chizan, eastern Khuzestan.  
Courtesy of A. Moghaddam.

sites, including Tepe Sialk, Susa, Tal-e Ghazir, and Tal-i Iblis is peppered with allusions to the “proto-BRB” that, if the term has any merit, suggests a form that predates the classic BRB. Notwithstanding Chazan and Lehner’s discussion of the possible evolution of the BRB towards its “classical” form (Chazan and Lehner 1990: 27, fig. 2), the designation “proto-BRB” may be simply a misnomer. Height and size variation certainly does characterize the BRB corpus. Thus, writing about the ceramic assemblage of Acropole I: 22–17, Le Brun noted that it was dominated by BRBs, with variations particular to the lower and upper levels (Le Brun 1971: 177). Similarly, at Tepe Yahya it has been observed that, “Besides the classic Mesopotamian variety, both a smaller and a taller variety have been discovered here which have parallels at Susa” (Lamberg-Karlovsky and Tosi 1973: 36; Potts 1977: 28, n. 30). More recently, B. Helwing has noted, “a clear typological distinction between early shallow forms that tend to be made from a loamy chaff tempered clay, and of a later high, narrow conical form made from a clay with chaff-and-grit temper is possible and chronologically significant” (Helwing 2005: 54, n. 17). Without a detailed analysis of all of the C<sup>14</sup> dates from Uruk Mesopotamian, and contemporary sites in Iran, Syria, and Anatolia, it is impossible to defend the view that the shorter or “proto-BRB” is chronologically early enough to support the view that the form originated outside of Mesopotamia. It may just be a variant that falls chronologically within the earlier period of BRB use in the Near East.

Whether or not the BRB originated in Mesopotamia, it has been considered a quintessentially Mesopotamian artifact for nearly a century. Yet if BRBs were made in hundreds of places outside of Mesopotamia (if we count Syria and Anatolia as well as Iran), should we continue to consider them Mesopotamian? As B. Helwing noted several years ago, “Bevelled rim bowls have long been considered a marker for the Uruk culture, until closer examination of assemblages from Northern Syria and South-eastern Turkey revealed that BRBs can occur alongside otherwise clearly indigenous assemblages . . . and they equally can occur on the Iranian plateau within strictly indigenous assemblages” (Helwing 2005: 54, n. 17). It is time to rethink our approach to BRBs and to stop looking at them as non-indigenous, intrusive elements in the many local ceramic traditions in which they appear. In this regard, the study of ancient religion provides us with an obvious analogy that may be instructive.

Many originally Mesopotamian deities, including Adad and his consort Shala, Inanna, KI (Earth), Nabu, Nana, Ninhursag, and Sin, were worshipped in southwestern Iran during the second millennium BC (Potts 1999, in press). Some of these, such as Adad, were still worshipped during the Achaemenid period (Koch 1977: 110–11). W. F. M. Henkelman has made the point, however, that the worship of some of these deities in Iran, including Adad, is attested over such a great span of time, that it is incorrect to view such deities as Mesopotamian or Babylonian when talking about the Iranian context (Henkelman 2006: 240). After fifteen hundred years of veneration, Adad’s presence at Persepolis can hardly be considered evidence of the worship of a “foreign” deity. If anything, the Persians of the fifth century BC may have thought of Adad as an Elamite deity, so ancient was his worship in the region, but certainly not as Mesopotamian.

A similar sort of logic may help us to understand the cultural character of the BRB. In this case, it is not the use and assimilation of BRBs over millennia that transformed them from something Mesopotamian into something local, but rather the fact that they appear to have been made and used in such a variety of non-Mesopotamian locales by non-Mesopotamians—since it seems inconceivable that Sumerian or Susian enclaves lurk beneath the surface of every site on which BRBs have been found—that they must be viewed as part of the local cultural repertoire. This being the case, it seems logical to go one step further and to suggest that the uses to which BRBs may have been put on the Iranian Plateau or in Pakistani Baluchistan were not necessarily the same as those assumed in the Mesopotamian heartland.

Even if Nissen, Johnson, Englund, and others are correct in interpreting the BRB as a ration bowl in Mesopotamia, it seems difficult to extend this interpretation to Iran and Pakistan, where the small numbers of BRBs found on many sites where they appear would seem to argue against their having

functioned in a ration distribution system, let alone “a regionwide pattern of labour recruitment” (Rothman 2004: 101). On the other hand, one must ask whether their peculiar fabric and shape would have been reproduced over and over again if the BRB did not have some strong functional *raison d'être*? Multi-functionality was first seriously argued by A. Le Brun (Le Brun 1980: 66), and some years later K. Abdi suggested that

the dramatic socio-economic developments of the Uruk period required a cheap, easy-to-make, multi-functional container for a variety of daily domestic uses, a situation comparable to the increasing demand for cheap packing material for exports during the Industrial Revolution of the nineteenth century, and the paper plates and Dixie cups of the contemporary western societies. (Abdi 1999: 223)

But while many ceramic forms in antiquity were probably multi-functional, it seems difficult to believe that any number of other forms on hand at Tal-i Iblis, Tepe Ozbaki, or Susa couldn't have filled the need for multi-functionality.

### A Culinary Change and a Culture of Emulation in the Fourth Millennium BC?

If one is looking for a single-function explanation, other than the ration bowl, then, following Schmidt, Millard, Chazan, and Lehner, the analogy with Egyptian “pot bread” vessels seems to provide the “most convincing explanation for the function of such vessels . . . as moulds for cooking leavened bread” (Wengrow 2001: 171). It is notable that, although a great deal of attention has been paid to early cereal domestication in the ancient Near East, far less attention has been paid to the grinding of harvested grains into flour (Landsberger 1922; Stol 1979) and the making of bread (Währen 1967; Grégoire 1999). As J.-P. Grégoire has noted, “Flat bread constituted the staple diet, but leavened bread had been known since the Neolithic period, as evidenced by cupola ovens, which coexisted in the Near East as early as from the sixth millennium BCE with cylindrical ovens (*tanur*). While the former are suitable for leavened bread, the latter are more appropriate for the breaking of flat bread. The great bakeries used mainly cupola ovens” (1999: 255, citing Währen 1967: 11; Barrelet 1974; Bromberger 1974; Crawford 1981). According to Pliny (*Natural History* 18.71; Chazan and Lehner 1990: 31), both ground bitter vetch (*Vicia ervilia*) and chick pea (*Cicer arietinum*) could be used as leavening agents. Both of these pulses were widely available in the ancient Near East (Stol 1985; Renfrew 1985).

The “great bakeries” of which Grégoire wrote were, of course, the huge establishments attested in cuneiform sources. Not very many sites in Iran would have had grinding and baking establishments on a par with those known at Nippur or Umma, but Susa, Tal-e Malyan and Choga Mish—where ca. 250,000 BRBs were found in just two seasons of excavation—may well have been baking bread on an industrial scale. Those loaves may well have been distributed as compensation for labor performed, just as Rothman, Zagarell, and the Mesopotamian ration proponents have suggested. Elsewhere, however, it is equally possible that what spread was not a labor system with bread as rations or state/city-state coordinated merchant colonies, but a taste for leavened bread (whatever its Neolithic antecedents)—tentatively identified in contemporary proto-cuneiform text as GUG<sub>2a</sub> (Englund 1998: 180, n. 417)—and a new type of baking technology using easy-to-fashion, locally produced BRBs. In discussing the comparative evidence from Egypt, Chazan and Lehner closely compared the technique of baking in thick-walled, Egyptian *bedja* bowls (Jacquet-Gordon 1981 for a detailed presentation of Egyptian bread pots) and in the thinner-walled BRB, suggesting that whereas *bedja* bowls were in fact portable ovens that were heated and then filled with dough, BRBs were probably filled with dough and then placed in an oven for baking. Importantly, the apparently crude fabric of the BRB, they argued, “can be explained as a response to the uneven and rapid heating to which these vessels were exposed . . . The more open a ceramic fabric, the more able it is to absorb thermal shock” (Chazan and Lehner 1990: 30). Were

BRBs a kind of “baking tin” in which leavened bread was produced using a similar method to that documented in Egypt? Did non-Mesopotamian palates adopt a Mesopotamian mode of baking in the mid-fourth millennium that saw the spread of the BRB from the Mediterranean and Anatolia all the way to Pakistan? Was serious élite emulation involved, or just a taste for a new type of bread?

The disappearance of the BRB, of course, requires an explanation as well. Is the bread-baking explanation weakened by the fact that BRBs stopped being made after ca. 3000 BC? If one thinks of Nissen’s original ration hypothesis, then the answer to this question must surely be “no.” After all, the disappearance of the BRB in Mesopotamia did not mark the end of the ration system there; therefore, there is no reason to believe that the end of the BRB-using phase marked the end of eating leavened bread. Here an observation on bread shape may be relevant. As Grégoire noted, according to Währen’s research, “Loaves dated to the third millennium were made from barley, emmer, or wheat flour and were round, concave, or triangular, or even ball- and ring-shaped” (Grégoire 1999: 255). This suggests increasing diversification in bread-baking occurred after the fourth millennium, and one could suggest that after an initial phase in which the BRB was used as the main form for baking leavened bread, a greater number of ceramic forms came to be employed to produce loaves of a wide variety of shapes. East of Mesopotamia, and for that matter in those other parts of Western Asia where BRBs had been used, the local evolution of the baker’s craft may well have resulted in the modification or invention of indigenous ceramic forms that came to replace the BRB as the baking of leavened bread became culturally internalized.

Such a scenario would thus account both for the hundreds of thousands of BRBs found at sites like Choga Mish, where great bakeries may well have catered to hundreds if not thousands of dependent laborers, and small sites like Wezmeh Cave, where the odd sherd of a BRB may simply reflect the baking of unleavened bread in a fashion initially borrowed from Mesopotamia or Khuzestan.

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Table 1. Occurrences of BRBs at 107 archaeological sites in 19 sub-regions of Iran and Pakistan.

Region	Site/Survey	Remarks	Reference
I. Tehran	1. Tepe Mamorin	near/under new Imam Khomeini Int Airport (IKIA)	Abdi 1999: 84
	2. Wavan	south of Tehran on the way to IKIA	Abdi 1999: 84 and pers. comm.
	3. Maral Tepe	part of the Tepe Ozbaki complex; sherds from “a number of beveled-rim bowls” were recorded	Majidzadeh 2000: fig. 8.1; 2001/2: 3
II. Qazvin	4. Tepe Ghabristan	period IV: “about seventy beveled-rim bowl sherds and one complete “Groben Blumentopf””	Majidzadeh 1976: 108, 199
III. C. Plateau	5. Tepe Sialk	periods III <sub>6-7</sub> IV <sub>2</sub>	Ghirshman 1938: pl. 26.7b [S.20], pl. 90 [S.37]; Dyson 1965: 223, 225; Amiet 1985: figs. 1–2; Helwing 2005a: 54, n. 17
	6. Arisman	“so ist auch jetzt in der Sialk IV-Zeit eine geringe Anzahl von Formen vertreten, die zwar lokal in der Fertigung ist, deren Prototypen jedoch in der mesopotamischen Urukultur zu suchen sind. Dazu gehören Glockentöpfe, die nun wesentlich steilwandiger sind als die älteren Exemplare”	Chegini et al. 2004: 215; Helwing 2005b: 175
IV. C. Western Zagros (Kangavar)	7. Godin Tepe	period V building period VI: “At Godin outside of the Oval Enclosure, in those parts of the town occupied in late Period VI, one finds from the Late Uruk assemblage only the bevelled rim bowls and coarse ware trays”	Weiss and Young 1975 Levine and Young 1986: 40
	8–10. survey	“Bevelled rim bowls and coarse ware trays have . . . been found on the surface of three other sites [other than Godin Tepe] in the Kangavar valley, but not in any quantity	Levine and Young 1986: 40
(Malayer)	11. survey	1 BRB on an unnamed site	Howell 1979: 157
(Nehavand)	12. Tepe Giyan	“sherds of beveled-rim bowls have been picked up at Giyan itself (University Museum collection)”	Dyson 1965: 232, cf. 219
(Kermanshah)	13. Tepe Dehsavar	“quantities of beveled-rim bowls at Deshavar (sic) not many miles from Giyan”	Dyson 1965: 219
(Mahidasht)	14–16. survey	“beveled rim bowls have been found on survey in sufficient quantities on at least three sites (Md. 30, 101, and 167)”	Levine and Young 1986: 40
(Islamabad)	17. Chogha Gavaneh	“In our surface pick-up at Chogha Gavaneh we found stray pieces of Beveled-Rim Bowl”; in Step Trench 1, “a dense deposit of discarded Uruk pottery, including Bevel-Rim Bowls”	Abdi 2001: 5
	18. Wezmeh Cave	one sherd	Abdi 2003: 424
(Hulailan)	19. survey	“No Hulailan site . . . yielded more than four Beveled- rim bowls”	Henrickson 1983: 456, citing Mortensen 1976: 45
	20. Chia Fatela	“A few bevel rim bowls and a possible drooping spout (Goff 1971: figures 19, 23; Mortensen 1975: figures 7, 8) on one of the campsites and one of the village sites of the Hulailan Plain are the sole possible indications of the Late Uruk Period.”	Goff 1971: fig. 5.19; Wright 1987: 147

Region	Site/Survey	Remarks	Reference
V. Deh Luran	21. Tepe Farukhabad	20 BRBs	Wright 1981: pl. 11e–f, Tables 27 and C4
	22. Tepe Musiyan	complete bowl displayed in the Louvre before WW III	Burton Brown 1946: 36
VI. Susiana	23. Susa	indeterminate but large number	<i>inter alia</i> Le Brun 1971, 1978, 1980
	24. Choga Mish	ca. 250,000 in the 3rd and 4th seasons alone	Delougaz and Kantor 1996: 49, fig. 8, pl. 83.T–V
	25–78. survey	“Bevel rim bowls apparently occur at all Middle and Late Uruk sites,” of which there are at least 54	Johnson 1973: 58 and Table 18
VII. Mianab/Gargar	79–80. KS-1508, 1617	unstated number	Moghaddam and Miri 2003: fig. 12.2–3
	81. Tall-e Abu Chizan		Moghaddam 2007
VIII. Ram Hormuz	82. Tal-i Ghazir (RH-1)	unstated number	Caldwell 1957–71: figs. 18, 27
	83. Tepe Moravache/RH-6	unstated number	Wright and Carter 2003: 76
	84. Tepe Bayamun/RH-32	unstated number	Wright and Carter 2003: 81
IX. Qaleh-ye Tol	85. Qaleh-ye Tol	2 BRBs	unpublished; seen 17.11.2002
X. Izeh	86. Tepe Sabz’ali Zabarjad	“a concentration of standard beveled rim bowl sherds . . . covering an oval area oriented northeast–southwest, perpendicular to the oval summit of the mound”  “five complete examples from the pit in Unit B as well as by 15 rim-to-base sections”	Wright 1979: 67  Wright 1979: 71, fig. 25b–c, Tables 7–8
XI. Behbahan/Zuhreh	87. BZ.86/1	possible proto-BRB	Dittmann 1984: 52; cf. 66
	87. Arjan	1 BRB (figs. 1–2)	unpublished; seen 15.11.2002
XII. Bakhtiari mountains			
(Khana Mirza)	89. Tul-i Boland Aloni/K25	BRB found by Zagarell; “many” on 2002 survey	Zagarell 1978: 136 and unpublished; seen 19.11.2002 by Potts, Roustaei, Weeks, and Petrie
(Lordegan)	90. Qaleh Gelli (L1)	4 BRBs (figs. 3–4)	unpublished; seen 19.11.2002 by Potts, Roustaei, Weeks and Petrie
(Shahr-e Kord)	91. Sharak (S10)	“large numbers of beveled rim bowls”	Zagarell 1989: 291, fig. 17.6.3
	92. S17	“large numbers of beveled rim bowls”	Zagarell 1989: 291
XIII. Mamasani			
	93. Tol-e Nurabad	41 BRBs recovered in 2003 excavations	Weeks et al. 2006: fig. 3.100–102
	94. Tol-e Spid	23 BRBs recovered in 2003 excavations, more in 2007	Petrie et al. 2006: fig. 4.73; Petrie et al. 2007; Zeidi, McCall, and Khosrowzadeh 2006: fig. 6.15 [MSP 1948]
	95. Tappeh Mohammad Kazemi/MS47	1 BRB	Zeidi, McCall, and Khosrowzadeh 2006: fig. 6.15 [MSP 1786]

Region	Site/Survey	Remarks	Reference
XIV. Marv Dasht	96. Tal-e Malyan	indeterminate but significant number (TUV, ABC, H5)	Nicholas 1990: 56–57; Sumner 2003: 46–47; Miller and Sumner 2003: Table 2
	97. Tal-e Kureh	at least 326 BRBs in both Terminal Lapui and Banesh levels	Alden 2003: 196 and Table D1
	98–100. survey	at least 3 out of 42 sites with Banesh diagnostics had BRBs, a further 18 had doubtful Banesh presence	Sumner 2003: 199 and Table E2
XV. Bard Sir	101. Tal-i Iblis	period IV: “The Mesopotamian variety of beveled rim bowl period VI: “In a 5 m test pit (No. II) 200 m SSW of the edge of the mound the first 20 cm level contained 61 beveled rim bowl fragments, 4 trough spouts and other sherds reminiscent of Sialk IV”	Chase, Caldwell and Fehérvári 1967: 184 “occur rather sparingly”; Caldwell 1967: 38 and fig. 39 lower
	102–103. survey	5 BRBs at Tal-e Khomi, 2 at Tal-e Dashtekar	Alireza Khosrowzadeh pers. comm.; 2005
XVI. Kerman	104. Tepe Langar	30 km southeast of Kerman, unstated number of BRBs	Lamberg-Karlovsky 1968: 167
XVII. Soghun	105. Tepe Yahya	indeterminate number	Potts 2001: figs. 2.19–20
XVIII. Jiroft	106. Mathoutabad (c. 1 km E of Konar Sandal South)	“abundant fragments”, “about 13% of the whole ceramic assemblage, and their fragments come by the hundreds”	Vidale 2007 and pers. comm.
XIX. Makran	107. Miri Qalat	indeterminate number	Besenval 1994: 521; 1997: fig. 18

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